

REMARKS

The October 27, 2008 Office Action regarding the above-identified application has been carefully considered; and the concurrently filed Terminal Disclaimer together with the claim amendments above and the remarks that follow are presented in a bona fide effort to respond thereto and address all issues raised in that Action. The claims have been amended only to improve grammar. It is believed that the revised claim language does not narrow the scope of any amended claim. Care has been taken to avoid entry of new matter. For reasons discussed below, it is believed that this case is in condition for allowance. Prompt favorable reconsideration of this amended application is requested.

The Examiner rejected claims 1 and 8 for non-statutory double patenting over claim 1 of U.S. Patent No. 7,080,251 to Fujishiro et al. (hereinafter the Fujishiro patent), in view of U.S. Patent No. 6,134,550 to Van Oorschot et al. (hereinafter Van Oorschot). Applicants are concurrently filing a Terminal Disclaimer to obviate this double patenting rejection over the Fujishiro patent. However, that filing should not be construed as any agreement by Applicants that the independent claims are not patentable over the claims of the Fujishiro patent alone or in combination with Van Oorschot. Withdrawal of the double patenting rejection is requested.

Claims 1-14 were rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Publication No. 2002/004630 to Fujiyoshi et al. (hereinafter the Fujiyoshi publication) in view of Van Oorschot. This rejection is traversed.

The pending independent claims include steps for registering a partial path in the event that the path specified by the certification validation request is NOT registered in the database. In particular, each independent claim includes *inter alia* recitations as follow:

step 6) **if the checked path is not** registered in the database as the valid path in step 4, searching a path that includes a partial path from the start certificate authority being the trust anchor to the end entity certificate issuing

authority which has issued the public key certificate of which certificate validation is requested and which is the end of the path, and that extends from the start certificate authority being the trust anchor to the end entity which is an issue destination of the public key certificate of which certificate validation is requested;

step 7) in the searching step in step 6, if the path extending from the start certificate authority being the trust anchor to the end entity being the issue destination of the public key certificate of which certificate validation is requested is detected, validating the path that includes the partial path and extends from the start certificate authority being the trust anchor to the end entity being the issue destination of the public key certificate of which certificate validation is requested;

step 8) judging the validity of the public key certificate of which certificate validation is requested based on the validation result in step 7 and outputting a result of the judgment; and

step 9) registering the partial path included in the path validated in step 7 into the database as a valid path.

It is respectfully submitted that the Fujishiro publication does not provide these steps relating to partial path validation for a situation in which a checked path is not registered in the database as a valid path, and Van Oorschot does not make up for these distinctions.

As discussed for example in the abstract, the Fujishiro publication discloses a technique for periodically searching for and verifying paths which extend from a bridge certification authority to individual terminal admitting certification authorities. In the publication, Fujishiro registers the paths whose verifications have held good, in a path database in association with the respective terminal admitting certification authorities. When there is a request for the authentication of the validity of a certificate, the system judges the subject certificate to be valid only when both the paths are registered. Sections of the Fujishiro publication cited in the rejection are consistent with the description in the abstract, that is to say, the disclosed technique judges the subject certificate to be valid only when both the paths are registered.

The Fujishiro publication does not meet claim requirements regarding performing a search in the event that the path is not in the database (step 6 of each independent claim) or any of the further processing recited in the independent claims that flow from that outcome (e.g. steps 7-9 of each independent claim). In that regard, it may be helpful to compare the process flow of the example of FIGS. 10 and 11 of the present application to the process flow disclosed by FIGS. 10 and 11 of Fujishiro, to exemplify this distinction. In particular, the process in the Fujishiro publication branches from the ‘NO’ decision in step S2002 in FIG. 10 directly to the step S2003 in FIG. 11 in which there is a notification to the requestor that the subject certificate is not valid. Because the Fujishiro publication only provides a notification of invalidity whenever the path is not in the database, the publication does not provide the search etc. that are performed after the ‘NO’ decision at step S2002 in FIG. 10 of the present application, in the event the path is not in the database.

The latest rejection now acknowledges that Fujishiro does not disclose performing a search in the event that the path is not in the database and instead cites Van Oorschot. However, Van Oorschot does not make up for the above-noted differences over the Fujishiro publication. It is respectfully submitted that Van Oorschot would not teach one of skill in the art to perform a search in the event that the path is not in the database particularly in a manner that would in turn lead to the further processing recited in the independent claims that flow from that outcome (e.g. steps 7-9 of each independent claim).

There are differences between Van Oorschot and the relevant portions of Applicants’ claims 1 and 8. Van Oorschot constructs a preferred certificate chain, such as a list of all certificate authorities in a shortest trusted path, based on generated certificate chain data, allegedly to facilitate rapid validity determination of the certificate by a requesting unit (Abstract). In Van Oorschot, the certificate chain constructing unit 206 determines whether the

end of the chain has been reached as shown in block 604. If the end of the chain has not been reached, the certificate chain constructing unit obtains the associated table entry for the next link from the certificate chain data table 209 as shown in block 606. This link in the chain is then added to the previous link as shown in block 608, and the process continues until the end of the shortest chain is reached. Attention is directed to Column 10, lines 40-48. This essentially describes an iterative process for building the chain from data that is present in the table. However, Van Oorschot does not suggest or disclose a search process like that recited claim Step 6 in which the process for obtaining and analyzing a public-key certificate based on the information provided by a request for a certificate validation is executed, and then, a path between a start CA and a specific end entity, including a partial path from a start CA to an end entity certificate issues CA, is searched, if the checked path is not yet registered in the database. In Van Oorschot, if no certificate chain data is stored in a relevant entry of the look up table, the client query processor returns a signal indicating that no trust chain is known corresponding to the query. Attention is directed to Column 10, lines 55-58.

Moreover, according to the present independent claims, a path to be registered when it is detected by a search and the validity is authenticated, is not "a path from a start CA to an end entity," but is a partial path included in the path that is a partial path from a start CA to an end entity admitting certificate authority (end entity certificate issuing authority). This is a claim distinction that has not been disclosed by Van Oorschot or the Fujishiro publication.

It should be apparent from the foregoing that the claimed search (step 6) in the event that the path is not in the database is different from the feature of Van Oorschot, wherein a chain data is added to a link when the end of the chain has not been reached (compare step 6 to column 10, lines 40-58, of Van Oorschot).

Van Oorschot describes that a link in the chain from a subscriber's CA to a target CA could be added to the chain as a way of connecting a path registered in the certificate chain data table 209 (see column 10, line 42-53). In contrast, the steps recited in the present independent claims may take into consideration any combination of CAs, which could cover broken chains between a start CA and an end entity certificate issuing authority and chains between a start CA and a target CA (not only the shortest chain). Compared with the claims, according to Van Oorschot, if a new CA is added after the database is created, a revised path including the information of the added new CA can not be made (chain construction fails if a relevant entry is absent from the table, column 10, lines 55-58). Thus, even if it is the case where the public key certificate could be validated once the path including the new CA is available, the validation of such a public key certificate would not be achieved by Van Oorschot because the entry for that CA is absent from the outdated table.

It also should be apparent from the foregoing that the subsequent processing steps 7-9 recited in the claims have not been disclosed or suggested by the cited references. It is submitted that neither of the documents cited in the art (103) rejection teaches Step 7, wherein if the path extending from the start CA being the trust anchor to the end entity being the issue destination of the public key certificate of which certificate validation is requested is detected, validating the path that includes the partial path and extends from the start certificate authority being the trust anchor to the end entity being the issue destination of the public key certificate of which certificate validation is requested. Similarly, the Fujishiro publication and Van Oorschot fail to specifically teach claim Step 8, wherein, judging the validity of the public key certificate of which certificate validation is requested based on the validation result in step 7 and outputting a result of the judgment. Furthermore, the Fujishiro publication and Van Oorschot fail to

specifically teach claim Step 9, wherein, registering the partial path included in the path validated in step 7 into the database as a valid path.

Consequently, the inventions of claims 1 and 8 and the various dependent claims could not have been made by combination of the invention of the Fushiro publication and the teachings of Van Oorschot.

The claimed subject matter (e.g. of claims 1 and 8) aims at solving problems such as one or more of those described below:

i) The number of cases in which periodical search, authentication, or registration for path are not sufficient for public key certificate validation have been increased because of expanding number of certificate authorities (CAs) and resulting change(s) of the system configuration.

ii) The number of cases in which the information of changes in the certificate authority configuration relating to newly established CAs or closed-down CAs has not been properly provided to a manager of a certificate validation server has increased, so that manual search, authentication, or registration for path can not be processed properly. This may lead the certificate validation server to create the wrong validation result.

However, Van Oorschot does not recognize or solve any of these problems. It is respectfully submitted since Van Oorschot does not address such problems one of skill in the art would not see a reasonable basis to combine Van Oorschot with the Fushiro publication. Hence, in addition to not fully satisfying the independent claim requirements as outlined above, the combination of the Fushiro publication and Van Oorschot would not have been legally obvious.

Upon entry of the above claim amendments, claims 1-14 remain active in this application, all of which should be patentable over the art applied in the Action. Applicants therefore submit that all of the claims are in condition for allowance. Accordingly, this case

should now be ready to pass to issue; and Applicants respectfully request a prompt favorable reconsideration of this matter.

It is believed that this response addresses all issues raised in the October 27, 2008 Office Action. However, if any further issue should arise that may be addressed in an interview or by an Examiner's amendment, it is requested that the Examiner telephone Applicants' representative at the number shown below.

To the extent necessary, if any, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



Keith E. George
Registration No. 34,111

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 KEG:apr
Facsimile: 202.756.8087
Date: January 27, 2009

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as our correspondence address.**